EXAMINING THE EFFECTS OF SERVICE QUALITY AND PERCEIVED VALUE ON THE RELATIONSHIP BETWEEN SERVICE INNOVATION AND ORGANIZATION PERFORMANCE

Pi-Ching Chen  
Department of International Business, Chang Jung Christian University, 
Chang Jung Christian University, Taiwan

Li-Min Chuang  
Graduate School of Business and Operations Management 
Chang Jung Christian University, Taiwan

Yen-Yu Chen  
Corresponding Author 
Chang Jung Christian University, Taiwan 
Graduate School of Business and Operations Management (Ph.D. Student) 
Hospitality Management /Tajen University, Taiwan 
alicechen@tajen.edu.tw

ABSTRACT
The issue of service quality and service innovation in Taiwan has always been an important index for enterprise performance. Taiwanese restaurants face the rapidly changes of a big environment; in order to correspond with those growth challenges, competitive organizations will be decided by whether a company can come up with new ideas to create better services to effect customers’ perceived value and enhance organizations’ performance. With the gradually complicated and competitive global environment, development of customization of demand, these factors force organizations to speed up responses to adapt the environment. It is expected that the research results will set up a better comprehensive management model and guidelines for Taiwanese restaurants with their service innovation, better service quality and word of mouth perceived value. In this study, we take purposive sampling; collecting 160 superiors’ and 370 customers’ valid questionnaires to examine the hypotheses based on scholars’ suggestions for testing moderated mediation. The results showed that service innovation was positively related to service quality, and service quality partially mediated the relationship between service innovation and organization performance. Moreover, perceived value moderated the relationship between service quality and organization performance, and also moderated the indirect relationship between service innovation and organization performance through service quality. Finally, the implications and suggestions were discussed.

Keywords: service innovation, service quality, organization performance, characteristics, perceived value
1. INTRODUCTION

Tidd et al (2005) refers that innovation provides businesses re-designing or modification the products, services and methods. It will enable enterprises to survive or grow the competitive programs. Enterprise will obtain competitive advantage through product innovation, process innovation and service innovation. Innovative concept will establish sustainable organizations, motivate employees and provide quality services. Also it will create long-term shareholder value. There's a lack of related catering service innovation research especially in Taiwan. Tidd; Hull (2003) mentioned service innovation is novelty, different from the past concept of service or service delivery process. It will provide additional value to customers through new or improved solutions to the problem. Chung and Duan (2006) defined service innovation: “existing products of organization will increase market competitors, and decreases the profit; an organization must develop or improve new products or services to response the rapid competitive market. In other words, service innovation plays an important role to upgrade service quality. Hult et al. (2004) and Panayides (2006) stated innovation capacity will positively affect the company's performance, since service innovation allows the company to bring new life into the product and gain benefit. Lievens & Moenaert (2000) stated that the higher degree of innovation, the greater success on the development of new services. Therefore, service innovation will stabilize service quality in order to achieve better service results awareness and service expectations.

Parasuraman et al. (1993) mentioned that it can improve service quality by creating good customer relationship management; better service quality will provide responsive, assurance and caring services. It reflects on the improving service quality process. At the same time, the implementation of customer relationship management could maintain old customers and develop new customers and retrieve old customers. Improving service quality will sustain competitive advantage for organization and enhance business performance. Currently, service quality has become key performance index (KPI) for various public and private organizations. Customers will satisfy with service quality. Furthermore service innovation and service quality will carry out multiple benefits for the organization. Hussein and Jabnoun (2006) indicated that institutions can increase profitability by improving service quality and with higher resources to improve service quality will create more profitable organization.

Enterprises may face great losses with service failures. Service quality is a kind of cognitive quality (perceived quality), rather than objective quality (Pai et al. 2015). Service quality is the subjective reaction from consumers, it cannot be measured by quantitative with identity or characteristics. Recently, some scholars have examined the psychological capital, mediation effects of trustiness (Rego et al, 2012; Wong et al 2010). Services personnel will affect customer's assessment with their service attitudes and behavior (Chen, 2004).

Scholars have pointed out perceived value or perception of previously experience based on the customers past business transactions (Tax et al, 1998; Vázquez-Casielles et al. 2010). With higher perceived value of service quality, the customer will continue to maintain their trust and satisfaction of the enterprise, and may continue to make purchases from the companies, and thus enhance organizational performance. Success factors are perceived directly by the customer as benefits of a new service and consumer benefits indirectly by firm's competencies (Storey and Easingwood 1996). Customer perceived service value is the value of the feelings and generated by the customer service experience; this perception influences subsequent purchasing behavior (Bettman et al. 1998; Boksberger and Melsen 2011; Parry et al. 2012).

Therefore we conclude that perceived value may have moderation effect with quality of service, thereby have indirect affecting between service quality and organizational performance. Based on the above research gap, the main purpose of the study is: (1) examine service quality mediated the relationship between service innovation and organizational performance (2) examine perceived value moderated the relationship between service quality and organization performance (moderated mediation) (3) examine perceived value moderated the indirect relationship between service innovation and organization performance. In this study, we take purposive sampling, collecting 226 valid questionnaires from restaurant senior executives. Recently, restaurants actively enhance organizational performance, but ignored some factors might be came from customers. Therefore, we examined whether the perceived value with moderation effect, and make up this research gap. We expect this study will improve the understanding of service innovation in the academics, and also help us further enhance the development of the organization’s performance management system.
2. LITERATURE REVIEW AND HYPOTHESIS

Service Innovation and Performance

In Early days, innovation research primarily focused on service innovation and innovation case conceptualization in service industry (Miles 2000; Ark, Broersma & Hertog 2003; Toivonen 2006). Therefore, the service innovation not only just means development successfully of new services or products, but also innovation across exiting products, services, and delivery system from small to large scale of modification and improvement. New services continue to explore features, make correction and delete error on specific services after introduction of new services (de Brentani 2001). Service innovation is a new service concept that different from the past, including communication with customers, the service delivery system or technology concepts. It probably conducts leadership and updating services in the integration process, changing service / product required in the new technology structure, service organizations or members of the organization capabilities (van Ark & den Hertog, 2003). Services innovation is also used to enhance the product advantages, the employment and economic growth. In the process of developing strategies, diversification service innovation will lead the concept of service innovation is difficult to explain. First, the service is intangible; second, the service is interactive, provider and customer participate in the innovation the process; third, the service is diversification; fourth, service innovation may be involved among several different levels of economy, business strategy, operations and individuals (Gallouj, 2002).

Continuous innovation will maintain an organization’s competitive position. Restaurant marketing strategy is likely to be quickly imitated by competitors, improving barriers to imitation with innovation ability. Competitors will be difficult to imitate the company’s unique competitive factors. The greater the obstacles to imitate the company’s, the longer maintaining competitive advantages (Bill & Jones, 2004). Successful innovation requires much efforts on development towards technologies and services (Kuusisto & Meyer, 2003). Effective innovation generating not only people reach goals effectively and efficiently, but also suitable for innovation outputs environment (Bradshaw & Hayday, 2007). This study conducted four constructs of service innovation as a theory that developed by Avlonitis et al. (2001). Lovelock (2004) proposed two viewpoints of services: First, services are provided by one party with behavior or performance to another. Product is tangible, but service is intangible that does not cause any problem of ownership. Second, service is an economic activity that provides benefits and creates value for customers in a specific place or time. Recipients of services can bring change of their needs. Service innovation creates competitive differentiation, value-added services and globalization. Therefore, service innovation is able to drive the enterprise change. Hult et al. (2004) and Panayides (2006) stated innovation capacity will positively affect the company’s performance, due to service innovation allows the company to put new life into the product by the benefit. Service innovations with the dynamic capabilities needed to require a delicate balance between a wider variety of service professionals to contribute the innovativeness of the firm and effectively and efficiently managing the innovation efforts (Frei 2008) (den Hertog et al. 2010).

Hypothesis 1: Service innovation has positively effect on organization performance.

Service Quality

Kotler (1996) proposed service quality has five features, including, intangible, perishability, inseparability, heterogeneity, and ownership.
1. Intangibility (Intangibility): Services are intangible, it was unable to see, touch or feel before making purchases. That will affect cognition of quality between consumer expectations and e quality of perception.
2. Perishability: Tangible goods can be prepared before processing in response to expected or unexpected results, but the characteristics of the service itself does not have any patterns that you cannot treat it as tangible goods like storage service. It is unable to stock it against unexpected needs.
3. Inseparability: During providing services it cannot be separated between machine and individual. Producers and consumers must be in the same place and at the time to complete the service.
4. Heterogeneity: The service performance will be different with various services providers. It includes: different things, time, place, manner, attitude, and recipients.
5. Ownership: The most significant difference is that the service does not have any ownership. The difference is that customers can use or access the facilities, and use or lease certain items must be paid. The physical goods can be completely owned by the buyer.

Lievens and Moenaert (2000) indicated that the characteristics of services innovation may also come from the work uncertainty; the higher the degree of innovation, the greater success on the development of new
services. The service innovation must rely on stable service quality in order to qualify service performance awareness and service expectations. Furthermore customers will satisfy with service quality. Therefore, according to the above literature review, this study proposed hypothesis: service quality mediated the relationship between service innovation and operating performance

**Hypothesis 2: Service quality has mediated effect between service innovation and organization performance.**

Perceived Value

Ahluwalia (2000) and Varela-Neira et al. (2010) indicated previously experience of perceived value will positively or negatively impact on the enterprise and customers. When customer’s previous experiences have a higher perceived value on the enterprise, the customer may choose to ignore the event of a service failure in business transaction and will continue to maintain their trust and satisfaction of the enterprise with providing poor service but have a remedy. He or she may continue to make purchase from companies with perceived value of previous experience. This study conducted perceived value constructs that developed from Vázquez-Casielles et al. (2010). Only customers can perceive and determine the actual value of the service offerings. The perceived value from customers has received a lot of concern from both academics and practitioners because it related to customer satisfaction and competitive advantages (Khalifa 2004; Boksberger and Melsen 2011). Service perceived value is the value of the feelings and cognition generated by the customer service experience; this perception effect succeeding purchasing behavior (Bettman, Luce, and Payne 1998; Parry et al. 2012). Landroguez, Castro, Cepeda-Carrón (2013) proposed that service perceived value is subjectively by customers and is not determined objectively by the firms. The process of perceiving value involves a trade-off between perceived benefits and sacrifices, and experienced by customers as a consequence of using the firm’s services (Chou 2009; Dodds and Monroe 1991; Richards and Jones 2008). In this study, not only perceived service attributes were going to be identified and reconfirmed, but also the relationship between service innovation and organization performance was tested.

**Hypothesis 3: Perceived value moderated the relationship between service quality and organization performance.**

Based on the assumption two and three, this study inferred perceived value also moderated the indirect relationship between service innovation and organization performance through service quality. As this study mentioned earlier, service innovation might affect the organization performance through service quality. According to the point of view from above two theories, the varied level of perceived value might affect service quality on services. Services quality with higher perceived value, customer will satisfy with products or services that companies provide, and therefore the organization performance will improve. Furthermore the higher perceived value; service quality will enhance organization performance.

**Hypothesis 4: Perceived value moderated the indirect relationship between service innovation and organization performance through service quality, in other words, the higher perceived value on service quality; the more enhancements on organization performance.**

3. METHODOLOGY

This study is conducted with a purposive sample taken in northern, central, and southern Taiwan. A total of 180 superiors of predominant Taiwanese restaurants and 430 customers participated in the conduct of this survey. These restaurants included Cucina Pasta, Din Tai Fung, Smoky Joe's and Wow Prime was selected for distribution of the questionnaires. The questionnaires were filled out with anonymity and confidentiality in mind, and the questionnaires were distributed and collected twice a week. A total of 160 superiors and 370 customers’ significant surveys were returned as fully completed, with a return rate of approximately 89% and 86% respectively.

The questionnaire contained four constructs (service innovation, service quality, perceived value, and organization performance) and seventeen dimensions for purposes of the main study. Superiors answered service innovation and organization performance constructs; meanwhile, customers answered service quality and perceived value constructs. All of the variables were analyzed with a pilot –test to ensure that all of them had a reliability exceeding the value of 0.7 as suggested by Hair et al. (1998). Any items with a lower reliability were eliminated from the study.

**Service Innovation**

This study applied the innovation scale from Avlonitis et al (2001) in order to measure the service innovation that took place. New-to-the-market services, new-to-the-company services, new delivery processes, service
modifications, service line extensions were selected as major dimensions. A Likert 7-point scale (1-strongly disagree, 7-strongly agree) was applied in the questionnaires. Each dimension in this construct is found to be larger than 0.7.

Service Quality
This study amended the scale from SERVQUAL (Parasuraman et al., 1988) in order to measure service quality. Tangible, reliability, responsiveness, assurance, and empathy were selected as major dimensions. A Likert 7-point scale (1-strongly disagree, 7-strongly agree) was applied in the questionnaires. Each dimension in this construct is found to be larger than 0.7.

Perceived Value
This study applied the scale known as the trust-related dependent variables, credibility and benevolence, have been measured as proposed by Vázquez-Casielles et al. (2010). Respondents answered on a seven-point Likert scale (1=totally disagree and 7=totally agree).

In this study, principal components factor analysis (principal component) has been conducted. Using the principal component factor analysis method and setting an Eigen Value of greater than 1.0 for the selection criteria, common factors were extracted from the returned questionnaires obtained.

Organization Performance
This study applied organization performance scale from Venkatraman & Ramanujam (1986) in order to measure performance. Financial performance, operation performance, and organizational effectiveness were selected as major dimensions. A Likert 7-point scale (1-strongly disagree, 7-strongly agree) was applied in the questionnaires. Each dimension in this construct is found to be larger than 0.7.

All the factors loading for the dimensions are all larger than 0.5 (Jöreskog, & Sörbom, 1996). The total variance explained of service innovation is up to 69.636%. The total variance explained of service quality is up to 64.512%. The total variance explained of performance is up to 80.046%. The total variance explained of team innovation is up to 69.265%.

Figure 1: Conceptual Model
4. RESULTS AND ANALYSIS

The regression analysis shows that service quality has significant effect on performance, and the monthly income is controlled ($F = 285.520$, $p < 0.001$) (See Table 2). The regression analysis shows that service quality has significant effect on service innovation, and the monthly income is controlled ($F = 133.324$, $p < 0.001$) (See Table 1). For service innovation it also has a positive significant effect ($F = 57.414$, $p < 0.001$)(See Table 1). In the model three of first time hierarchical regression, mediation variable (service innovation) has been conducted, service innovation has a positive significant effect on organization performance, and its regression coefficient is 0.440 (See Table 1). Between model two and model three of first time hierarchical regression, mediation variable (service quality) decreased from 0.531 to 0.232 (See Table 1), but still has significant effect on organization performance ($p < 0.001$). Table 4 shows that variance explained ($\Delta R^2$) increased from 0.303 to 0.406 (See Table 1), $F$ value is 57.414 and has a significant effect. That is partial mediation effect. In addition to Baron and Kenney (1986) examination of mediation variable, Mackinnon et al. (2002), Preacher and Hayes (2004) suggested that Sobel test should be applied to exam the mediation effect. Service quality has a significantly positive influence on organization performance through a mediation effect of service innovation after applying Sobel test. Z value is larger than 1.96.

Sobel test equation:

$$z\text{-value} = \frac{a*b}{\sqrt{b^2*sa^2 + a^2*sb^2}}$$

According to analysis of moderator hierarchical regression, service quality has not significantly positive influence on organization performance through the moderating effect of perceived value (See Table 3).

### Table 1. Analysis of First Time Hierarchical Regression

<table>
<thead>
<tr>
<th>IV</th>
<th>Monthly Income</th>
<th>Service Quality</th>
<th>Service Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DV</td>
<td>Model 1</td>
<td>Model 2</td>
<td>Model 3</td>
</tr>
<tr>
<td>Monthly Income</td>
<td>0.145*</td>
<td>0.123*</td>
<td>0.109*</td>
</tr>
<tr>
<td>Service Quality</td>
<td>0.531***</td>
<td>0.232***</td>
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</tr>
<tr>
<td>Service Innovation</td>
<td>0.021</td>
<td>0.303</td>
<td>0.406</td>
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<tr>
<td>$R^2$</td>
<td>0.021</td>
<td>0.282</td>
<td>0.104</td>
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<tr>
<td>$\Delta R^2$</td>
<td>7.110*</td>
<td>133.324***</td>
<td>57.414***</td>
</tr>
<tr>
<td>$F$</td>
<td>7.110*</td>
<td>133.324***</td>
<td>57.414***</td>
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### Table 2. Analysis of Second Time Hierarchical Regression

<table>
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<tr>
<td>DV</td>
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<tr>
<td>Monthly Income</td>
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<tr>
<td>Service Quality</td>
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<tr>
<td>$R^2$</td>
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<tr>
<td>$\Delta R^2$</td>
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<tr>
<td>$F$</td>
<td>1.156</td>
<td>285.520***</td>
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Mackinnon, Lockwood, Hoffman, West, and Sheets, 2002
Preacher and Hayes, 2004
Table 3. Analysis of Moderator Hierarchical Regression

<table>
<thead>
<tr>
<th>IV</th>
<th>DV</th>
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<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
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<tr>
<td>Control Variable</td>
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<tr>
<td>Monthly Income</td>
<td></td>
<td>0.145*</td>
<td>0.10*</td>
<td>0.098*</td>
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<tr>
<td>IV: Service Innovation</td>
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<td>(SI)</td>
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<td>New delivery processes</td>
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<td>0.210***</td>
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<td>services</td>
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<tr>
<td>New-to-the-company</td>
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<td>0.126*</td>
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<td>Service line extensions</td>
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<td>Perceived Value (PV)</td>
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<td>F</td>
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<td>7.110*</td>
<td>45.926***</td>
<td>0.401</td>
<td>0.276</td>
</tr>
</tbody>
</table>

5. CONCLUSION AND IMPLICATIONS

5.1. Theoretical and managerial implications

This study aims to explore the relationship among service quality, service innovation, perceived value, and organization performance, and. According to the literature review findings, Taiwanese restaurants should strengthen service quality to enhance their firms’ performance through service innovation.

This study verifies that service quality and organization performance have positive effect through mediation effect of service innovation. The interaction between service innovation and perceived value has not significant effect on organization performance. This is because of customers’ diversified eating behavior and economic conditions after conducting qualitative interviews. It is important for the restaurants to create an environment for innovation development to occur and quality improvement to develop. Perceived value construct might have interaction effect with other constructs in different industries. In this study, it showed that perceived value has not interaction effect with service innovation in restaurant industries. In the service industry, service quality will definitely maintain the organization’s competitive advantage. Restaurants must support to maintain service quality and create innovation environment gradually to have the relevant channels which encourage effective communication between employees and customers. Restaurants must make sure improve every process to serve customers to meet their needs and reach their diversified expectations.

Finally, this study provides suitable scales to measure service quality, service innovation, and firm performance for Taiwanese restaurants, even though the perceived value has not interaction effect with service innovation. With better service quality and novelty service innovation, restaurants could sustain competitive advantage and better organization performance.

Recommendations

(A) Improve the selection system and human resource management so that employees will sustain the most valuable resource and competitive advantages in the restaurants. Restaurants should facilitate HR system, such as evaluation, authorization, and selection systems, to allow process continuously make
improvement. It should also establish in-work education and training employees programs that encourage employees to continue to absorb new knowledge and new ideas. Authorization (empowerment) means subordinates deal with customer comments with the appropriate authorization and delegation.

Follow-up recommendation on the research (A) To examine different variables or interactional effects

This study considers the relationship between service quality and organization performance through mediation effect of service innovation. Moreover, perceived value moderated the relationship between service quality and organization performance, and also moderated the indirect relationship between service innovation and organization performance through service quality. Even though perceived value has no interaction effect with service innovation, there might be different other factors to interact with service innovation and has significant affect the organization performance.
REFERENCE


